**Painted Cubes**

**Each figure is made up of smaller cubes. Someone decided to create a pattern by shading the smaller cubes that have ONLY two exposed faces in gray.**

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| **Figure 1** | **Figure 2** | **Figure 3** |

1. How many cubes are shaded in each figure? How many cubes will be shaded in figure 4?
2. How many cubes will be shaded in the 8th figure? How many cubes will be shaded in the nth figure?
3. Create a graph showing the relationship between the figure # and the total number of shaded cubes.
4. Pick a coordinate pair from your data. Explain the relationship between the data, equation and the graph.